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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/209,982	12/09/1998	MICHAEL KAPLINSKY	08305/050001	6236

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Micron Technology, Inc.  
c/o Tom D'Amico  
Dickstein, Shapiro, Moran & Oshinsky  
2101 L Street, NW  
Washington, DC 20037-1526

EXAMINER

VILLECCO, JOHN M

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/209,982

Applicant(s)

KAPLINSKY, MICHAEL

Examiner

John M. Villecco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 1 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the color correction matrix, image interpolator, and the method of weighting and processing colors must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The disclosure is objected to because of the following informalities:
- Applicant discloses that a Figure 3 which shows a typical calibration chart is included with the drawings. However, there is no Figure 3 included in the file. Figure 3 is disclosed on page 4, line 23 and page 12, line 19. Applicant is encouraged to submit Figure 3, if it exists.
  - On page 12, line 4, applicant recites the phrase “Byer pattern color filter”. It appears that this is a typographical error and that the applicant meant to use the phrase – Bayer pattern color filter –.

Appropriate correction is required.

***Claim Objections***

3. Claims 1 and 12 are objected to because of the following informalities:

- In claim 1, line 9, applicant recites the phrase “obtaining an color correction matrix”. This phrasing is unclear. It appears that applicant meant to use the phrase – obtaining a color correction matrix –.
- In claim 12, line 2, applicant recites the word “chromatacity”. It appears that this is a misspelling and that applicant meant to use the word – chromaticity –.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 2, 3 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitation "said color reference chart" in lines 12-13. There is insufficient antecedent basis for this limitation in the claim.

7. Regarding claim 2, applicant claims “weighting certain ones of the plurality of colors to be more corrected than the other ones of the colors”. However in claim 1, applicant recites several different categories of colors including: the plurality of colors, primary colors, and 2 other colors. It is unclear from the claim which colors are the “other ones of the colors”.

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8. Claim 3 recites the limitation "said comparing" in line 1. There is insufficient antecedent basis for this limitation in the claim.

9. Regarding claim 14, applicant recites the limitation "said colors". Similarly to claim 2, it is unclear which colors are being specified.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. **Claims 1, 3-9, and 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim (U.S. Patent No. 6,320,668).**

12. Regarding *claim 1*, Kim discloses a color correction apparatus and method in an imaging system. Kim discloses obtaining reference outputs from an image sensor using a color image array (20). The reference outputs are derived from a chromaticity chart shown as reference number 12 in Figure 3. The chromaticity chart includes the primary colors (red, green, and blue) as well as 21 additional colors for a total of 24 colors. The system receives an input from a colorimeter and compares it to the input reference data. The system then operates to reduce an error between the colorimetric scanning data and the data obtained by scanning the chromatic test pattern (12) by computing a color coefficient correction matrix. See column 13, lines 40-64

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and column 21, lines 18-50. In this manner the system is optimized for each of the input colors and color-corrected image is obtained.

13. As for *claim 3*, as shown in column 21, lines 18-50, Kim discloses calculating minimum value for each of the error values of the red green and blue components of the input colors. In this case the reference is denoted as  $P_{Ri}$ ,  $P_{Gi}$ , and  $P_{Bi}$ . The input colorimetric data is denoted as  $\underline{P_{Ri}}$ ,  $\underline{P_{Gi}}$ , and  $\underline{P_{Bi}}$ .

14. Regarding *claim 4*, Kim discloses using 24 colors in the color chart (12). Thus, the system uses at least 7 colors. See column 12, lines 15-30.

15. As for *claim 5*, Kim discloses using 24 colors in the color chart. See column 12, lines 15-30.

16. With regard to *claim 6*, Kim discloses a color correction apparatus and method in an imaging system. Kim discloses obtaining reference outputs from an image sensor using a color image array (20). A spectral optical system is used which includes a color resolution filter (col. 7, lines 45). The system outputs spectral information regarding the RGB colors (col. 13, lines 46 and 47). This amounts to an interpolation to determine all color components that impinge on the pixel. The reference outputs are derived from a chromaticity chart shown as reference number 12 in Figure 3. The chromaticity chart includes the primary colors (red, green, and blue) as well as 21 additional colors for a total of 24 colors. The system receives an input from a colorimeter and compares it to the input reference data. The system then operates to reduce an error between the colorimetric scanning data and the data obtained by scanning the chromatic test pattern (12) by computing a color coefficient correction matrix. See column 13, lines 40-64 and column 21, lines 18-50. The color correction processing unit acts as the image interpolator since it performs

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the color correction. In this manner the system is optimized for each of the input colors and color-corrected image is obtained.

17. Regarding *claim 7*, Kim discloses that the color chart (12) includes red, green, blue, white, and 20 additional colors. See column 12, lines 15-30.

18. As for *claim 8*, Kim discloses using 24 colors in the color chart. See column 12, lines 15-30.

19. With regard to *claim 9*, as shown in column 21, lines 18-50, Kim discloses calculating minimum value for each of the error values of the red green and blue components of the input colors. In this case the reference is denoted as  $P_{Ri}$ ,  $P_{Gi}$ , and  $P_{Bi}$ . The input colorimetric data is denoted as  $\underline{P}_{Ri}$ ,  $\underline{P}_{Gi}$ , and  $\underline{P}_{Bi}$ .

20. Regarding *claim 12*, Kim discloses using each color of the color chart (12) to produce a color correction matrix. See column 11, line 65 to column 12, line 41.

21. As for *claim 13*, Kim discloses a color correction apparatus and method in an imaging system. Kim discloses obtaining reference outputs from an image sensor using a color image array (20). A spectral optical system is used which includes a color resolution filter (col. 7, lines 45). Inherently a color filter operates to supply only light of a certain wavelength to the pixel which it covers. The system outputs spectral information regarding the RGB colors (col. 13, lines 46 and 47). The reference outputs are derived from a chromaticity chart shown as reference number 12 in Figure 3. The chromaticity chart includes the primary colors (red, green, and blue) as well as 21 additional colors for a total of 24 colors. The system receives an input from a colorimeter and compares it to the input reference data. The system then operates to reduce an error between the colorimetric scanning data and the data obtained by scanning the chromatic

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test pattern (12) by computing a color coefficient correction matrix. See column 13, lines 40-64 and column 21, lines 18-50. In this manner the system is optimized for each of the input colors and color-corrected image is obtained.

***Claim Rejections - 35 USC § 103***

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. **Claims 2, 10-11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (U.S. Patent No. 6,320,668) in view of Yamaguchi (Japanese Publ. No. 02-074367 A).**

24. Regarding *claim 2*, as mentioned above in the discussion of claim 1, Kim discloses all of the limitations of the parent claim. However, Kim fails to disclose weighting certain colors more than other. Yamaguchi, on the other hand, discloses that it is well known in the art to weigh some colors more than others when constructing a color correction matrix. See the abstract. By choosing certain colors to be weighted more than others, the system is placing more emphasis on specific colors. By placing more emphasis on certain colors such as flesh tones, the colors which are important and to which the eyes are more sensitive will be emphasized, thus producing a higher quality image. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to emphasize specific colors so that color which are important



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to an image are given more weight, thereby forming a better image. A translation of this document has been ordered, so that is available for use during subsequent actions.

25. **Claim 10** is considered substantively similar to claim 2. Please see the discussion of claim 2 above.

26. With regard to **claim 11**, as mentioned above in the rejection of claim 2, it is obvious to weight colors which are important, and to which the eye is more sensitive to, higher than other colors, so that a higher quality image is formed. It is well known in the art that red, green, and blue are very important colors, and thus it would have been obvious to one of ordinary skill in the art to weigh these colors more than the dull colors.

27. **Claim 14** is considered substantively equivalent to claim 2. Please see the discussion of claim 2 above.

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **Endo (U.S. Patent No. 6,256,062)** discloses correcting color using a color chart wherein the user can select a specific color to weight more than the others. See column 6, line 46 to column 7, line 29. Additionally, Endo discloses optimizing an error between a reference signal and an input signal (col. 10, lines 10-21).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
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or faxed to:

(703) 308-6306 (For either formal or informal communications intended for entry. For informal or draft communications, please label "**PROPOSED**" or "**DRAFT**")

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington VA, Sixth Floor (Receptionist).


Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to John M. Villecco whose telephone number is (703) 305-1460.  
The examiner can normally be reached on Monday through Thursday from 7:00 am to 5:30 pm  
EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
supervisor, Wendy Garber, can be reached on (703) 305-4929. The fax phone number for the  
organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the customer service desk whose telephone number is (703) 306-0377.



JMV  
2/26/03

  
WENDY R. GARBER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600